

QUARTERLY STATUS REPORT
RFCA IMPLEMENTATION
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
THIRD QUARTER FISCAL YEAR 1998

1.0 Introduction

Pursuant to paragraph 263 of the Rocky Flats Cleanup Agreement (RFCA or Agreement), this quarterly status report presents the progress toward implementation of activities covered under the Agreement. The RFCA is a legally binding agreement between the Department of Energy (DOE), the Environmental Protection Agency (EPA), and the Colorado Department of Public Health and Environment (CDPHE) to accomplish required cleanup of radionuclide and hazardous substance contamination at and from the Rocky Flats Environmental Technology Site (RFETS or Site).

This report describes activities that occurred from April, 1998 through June, 1998 (referred to as the third quarter of fiscal year [FY]98) and future planned activities. The sections of this report are organized into the following topics: (1) Introduction, (2) Site-wide Activities, (3) Implementation of the RFCA, (4) Water Management, (5) RFCA Milestones and Target Activities; (6) Site Closure Project, and (7) List of Approved Decision Documents.

2.0 Site-wide Activities

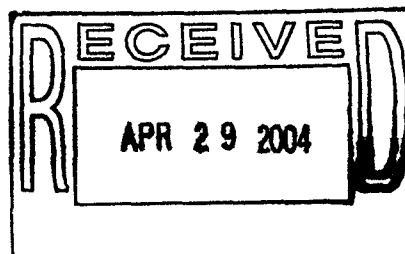
During the third quarter of FY98, several site-wide activities continued. These activities include (1) the Draft 2006 Plan (formerly the Ten Year Plan), and (2) Actinide Migration Studies.

2.1 Accelerating Cleanup: Path to Closure (formerly the Focus on 2006)

On June 12, 1997 DOE simultaneously released both the National and Rocky Flats Discussion Draft, 2006 Plan (called "Accelerating Cleanup: Focus on 2006"). This document presented alternative planning scenarios to achieve accelerated Site closure when compared to the 1996 Baseline Environmental Management Report (BEMR).

In the Discussion Draft 2006 Plan, DOE Headquarters established a goal of achieving cleanup of Rocky Flats by 2006. The DOE believes a 2006 cleanup can be achieved through re-engineering efforts, benchmarking to best-in-class commercial standards, developing innovative contractor incentive programs and implementing new technologies that result in cost and schedule improvement. At present, however, the Rocky Flats document shows a 2010 completion date at a cost of approximately \$7.3 billion.

The next draft of the 2006 Plan was released to Congress and the public in February, 1998, the title of the plan officially changed to *Accelerating Cleanup: Path to Closure*. This plan provides, for the first time, a project-by-project forecast of the technical scope, cost, and schedule required to complete all 353 projects at DOE's 53 remaining cleanup sites in the United States. The *Path to Closure* document is part of a continuum from the first life-cycle cost estimates and risk analyses underlying the BEMR, reflecting



DOE's strengthened and more organized commitment to listen and respond to stakeholder, regulator, Tribal Nation, and internal DOE concerns. The result is a more realistic projection of where DOE is headed, how DOE can accelerate cleanup and closure, and what the barriers are to further acceleration of those goals.

Path to Closure was made available for a 60-day public comment period in early March, 1998. Upon completion of this comment period, public comments and the DOE guidance were utilized to revise the document. The *Path to Closure* was released on June 30, 1998, as a "final" document and will be revised annually to reflect new technical and budgetary constraints as well as other opportunities and challenges.

2.2 Actinide Migration Studies

During the third quarter of FY98, the following Actinide Migration Studies activities were accomplished: (1) initiated development of input files for the Watershed Erosion Modeling on the South Interceptor Ditch and held frequent telephone discussions with model creators regarding the model, (2) developed and implemented a Soil Sampling Program, collected surface soil for analysis of actinide content in total and fractionated soil, and shipped some of the soil samples to Colorado School of Mines where soil fractionating began, (3) organized and held a meeting with the Actinide Migration Studies Group and Stakeholders on June 17 and 18, 1998, to discuss Actinide Migration FY98 work progress and the draft Conceptual Model; (4) prepared reply (offering data and software assistance) to proposal by Dr. Iggy Litaor of Tel-Hai College in Israel to return to RFETS to complete his work, (5) conducted quality assurance/quality control review of the draft mass loading analysis for Walnut and Woman Creek drainages, (6) met with representatives from the Cities of Broomfield, Westminster, Thornton, Northglenn, and Arvada to discuss status of watershed erosion modeling, (7) held discussions on and revised the draft Conceptual Model report, and (8) responded to stakeholder comments/concerns about past actinide studies. A status meeting on Actinide Migration Studies activities is planned for August 18, 1998.

3.0 Implementation of the RFCA

Activities associated with the implementation of RFCA during the third quarter of FY98 include: (1) continued negotiation on the National Pollutant Discharge Elimination System permit, (2) the Integrated Monitoring Plan, (3) the Closure Project Baseline, (4) Rocky Flats Site-wide Integrated Public Involvement Plan, (5) RFCA Attachment 13 Underground Storage Tank Closure Letter Agreement, and (6) RFCA Annual and Biennial Assessments. These RFCA implementation activities are discussed below.

3.1 National Pollutant Discharge Elimination System (NPDES) Permit

Discussions between the agencies, EPA and CDPHE, and the prospective permittees, the DOE, Kaiser-Hill Company, L L C (Kaiser-Hill), and Rocky Mountain Remediation Services, L L C (RMRS), continued in the third quarter of FY98. As of the end of the third quarter of FY98, the permit remains unissued.

3.2 Integrated Monitoring Plan (IMP)

The final draft FY98-99 IMP and IMP Background Document were presented to the IMP Working Group meeting on May 21, 1998. Comments were solicited from the members of the group by June 25, 1998, so that the documents can be finalized by August 6, 1998. At the same meeting in which the draft was presented, members of the IMP Working Group agreed that a periodic meeting of each media subgroup

was appropriate, and could be accommodated within the structure of standing meetings already scheduled for all media except "Air". The air monitoring working group will form a separate discussion group to pursue its issues. In addition, the IMP Working Group agreed that a general issues working group meeting would be appropriately held in conjunction with the Exchange of Information Meetings ("data exchange meetings") already scheduled each quarter. An agenda item will be inserted for this purpose.

An additional working subgroup has been identified to better ensure completeness of the IMP development process. This group was spawned in part by a recommendation from the Citizen's Advisory Board (CAB) to collaborate with DOE to improve the manner "in which environmental monitoring information and data is presented to the community." The group will be convened to discuss these data presentation issues and related data management activities needed to meet the FY99 RFCA commitment for making data available to the public. Meetings are planned to start in July, 1998, at a time and location convenient to participants from the CAB as well as other IMP Working Group members. The formative meeting will be used to review newly developed internet displays and to plan the path forward for the new group.

3.3 Closure Project Baseline (CPB)

The CPB – formerly referred to as the life-cycle baseline (LCB) – was completed by Kaiser-Hill in February, 1998. This document is the most recent refinement of the Site's evolving closure plan. This closure plan has been under development over the past two years, and describes the activities and costs required to cleanup and close the Site. The Site has made significant progress since the original Site cleanup concept was documented in the 1995 BEMR. That report described a \$20-\$40 billion cleanup effort over a 50- to 70-year period of time. Continued refinement of the Site plan – including both the *Path to Closure* and the LCB – has resulted in a fully-integrated, resource-loaded schedule with complete work scope descriptions and basis of estimate.

To prepare the CPB for a fourth quarter of FY98 external validation by one of the nation's top six accounting firms, additional reviews and analyses were performed during the third quarter of FY98. These reviews included numerous internal validations and an "Independent Red Team" review of the CPB. In addition, Kaiser-Hill generated a draft FY99/00 Work Plan which contains life-cycle scope, cost, and schedule information. All of the issues identified in the reviews and the draft Work Plan development will be incorporated into the CPB using the established change control process.

Subsequent to the external validation, the major changes will be incorporated into the next update to the *Paths to Closure* document. DOE and Kaiser-Hill will continue to refine the schedules and basis of estimates, examine assumptions, and evaluate alternative closure project strategies which will result in an improved CPB.

3.4 Rocky Flats Site-wide Integrated Public Involvement Plan

Pursuant to RFCA paragraph 281, DOE has developed, in consultation with CDPHE and EPA, a revised Community Relations Plan entitled "Rocky Flats Site-wide Integrated Public Involvement Plan" (Plan). The Plan includes topics on site description and history, communication tools and how they are utilized to meet communication objectives, contact list of key community leaders, active stakeholders, and interested parties, and suggested locations for meetings and information repositories. The Plan was completed in March, 1998, and is available in the Rocky Flats Public Reading Rooms.

3 5 RFCA Attachment 13: Underground Storage Tank Closure Letter Agreement

DOE has submitted closure reports (*Closure Report for the Design-Build Underground Storage Tank Replacement Project* dated April, 1998, and *Tank Closure Report Building 771, Underground Storage Tank No 20* dated August, 1996) to CDPHE and the Oil Inspection Section of the Colorado Department of Labor and Employment—Together, these two reports meet the requirements for the closure and assessment of the underground storage tanks in accordance with the CDPHE letter dated March 13, 1996, which was included in RFCA as Attachment 13

3 6 RFCA Annual Review and Biennial Assessment

Pursuant to RFCA paragraph 5, the RFCA Parties have been conducting an annual review of all applicable new and revised statutes and regulations and written policy and guidance to determine if an amendment pursuant to Part 19 (Amendment of Agreement) is necessary. In addition, the RFCA Parties also reviewed any new scientific information which is relevant to the question of whether the radiological soil action levels are protective. Pursuant to RFCA paragraph 257, the RFCA Parties have been conducting a biennial assessment of the substantive and procedural requirements of the Agreement to determine what measures each Party will take to ensure effective implementation of the Agreement.

The RFCA Project Coordinators issued a letter to the stakeholders announcing the annual review and biennial assessment process and requested input, comments, or suggestions. Both the review and the assessment will be completed by July 20, 1998. A final report summarizing the RFCA Parties findings will be prepared for each review and will be available in the Rocky Flats Public Reading Rooms.

4.0 WATER MANAGEMENT

Water management activities during the third quarter of FY98 include (1) watershed improvements, (2) surface water management, (3) surface water monitoring, (4) ground water monitoring, and (5) the Rocky Flats Water Working Group.

4.1 Watershed Improvements

No watershed improvements were implemented during the third quarter of FY98 and none are currently planned for the fourth quarter of FY98.

4.2 Surface Water Management

During the third quarter of FY98, the Site completed the following pond water transfers and discharges totaling 154.63 million gallons (MG), an increase of 39.20 MG compared to the third quarter of FY97. Non-routine discharges are noted and were performed in response to dam safety concerns caused by elevated pond levels and stormwater inflow rates.

There was no Pond A-1 activity during the third quarter of FY98.

Pond A-2 activity included one routine pumped-transfer to Pond A-3 totaling 2.02 MG. This transfer occurred during the period of May 4 through 21, 1998.

Pond A-3 activity included one routine and one non-routine outlet valve direct discharge to Pond A-4 totaling 26 72 MG. A routine discharge of 18 07 MG occurred during the period of April 19 through May 3, 1998. A non-routine discharge of 8 65 MG occurred during the period of May 21 through 30, 1998, and was concurrent with the Pond A-4 discharge to North Walnut Creek.

Pond A-4 activity included one routine and one non-routine outlet valve direct discharge to North Walnut Creek totaling 58 65 MG. A routine discharge of 31 40 MG occurred during the period of April 1 through 14, 1998. A non-routine discharge of 27 25 MG occurred during the period of May 21 through June 1, 1998, and was concurrent with the Pond A-3 discharge to Pond A-4. The City of Broomfield diverted the Pond A-4 discharges around Great Western Reservoir via the Broomfield Diversion Ditch.

Pond B-1 activity included one routine pumped-transfer to Pond B-2 totaling 0 43 MG. This transfer occurred on May 14, 1998.

Pond B-2 activity included one routine pumped-transfer to Pond A-2 totaling 1 00 MG. This transfer occurred during the period of May 11 through 13, 1998.

Pond B-5 activity included two non-routine outlet valve direct discharges to South Walnut Creek totaling 49 72 MG. A discharge of 27 41 MG occurred during the period of April 4 through 22, 1998. Another discharge of 22 31 MG occurred during the period of May 22 through June 11, 1998. The City of Broomfield diverted the Pond B-5 discharges around Great Western Reservoir via the Broomfield Diversion Ditch.

Pond C-2 activity included one routine pumped-discharge to Woman Creek totaling 13 21 MG. This discharge occurred during the period of May 21 through 30, 1998. Water quality samples were collected and analyzed prior to discharge. The Mower Ditch headgate remained closed to direct the discharge to the new Woman Creek Reservoir as requested by the City of Westminster.

Landfill Pond activity included one routine pumped-transfer to Pond A-3 totaling 2 88 MG. This transfer occurred during the period of April 20 through 24, 1998.

Transfers and discharges from the Site ponds during the third quarter of FY98 are summarized in Table 1.

Table 1. Site Pond Water Transfers and Discharges - Third Quarter FY98

Dates	Pond Activity	Total MG	Mode
5/4 to 5/21	A-2 to A-3	2 02	Pumped-transfer
4/19 to 5/3	A-3 to A-4	18 07	Outlet valve direct discharge
5/21 to 5/30	A-3 to A-4	8 65	Outlet valve direct discharge
4/1 to 4/14	A-4 to NWC	31 40	Outlet valve direct discharge
5/21 to 6/1	A-4 to NWC	27 25	Outlet valve direct discharge
5/14	B-1 to B-2	0 43	Pumped-transfer
5/11 to 5/13	B-2 to A-2	1 00	Pumped-transfer
4/4 to 4/22	B-5 to SWC	27 41	Outlet valve direct discharge

5/22 to 6/11	B-5 to SWC	22 31	Outlet valve direct discharge
5/21 to 5/30	C-2 to WCR	13 21	Pumped-discharge
4/20 to 4/24	Landfill to A-3	2 88	Pumped-transfer
	Total for Quarter	154.63 MG	

4.3 Surface Water Monitoring

During the third quarter of FY98, 133 automated monitoring system samples were collected and submitted for analysis. All 30-day moving average results for samples collected from RFCA Point of Compliance (POC) monitoring locations were well below the RFCA standards. However, Point of Evaluation (POE) monitoring location GS10 (located on upper S Walnut Creek above the B-1 Bypass) reported 30-day moving average results above the RFCA Action Level and Standards Framework action levels of 0.15 pCi/L for plutonium (Pu) and americium (Am). The calculated 30-day running averages for Pu exceeded the 0.15 pCi/L action level from March 19 through May 2, 1998, with a maximum of 0.29 pCi/L occurring on April 15, 1998. The 30-day averages for Am exceeded the 0.15 pCi/L action level from April 5 through April 15, 1998, with a maximum of 0.16 pCi/L occurring on April 8, 1998. Source evaluation of this POE GS10 exceedance is part of the ongoing FY97 source evaluation of the Walnut Creek drainage basin.

The Walnut Creek Source Evaluation continued during the third quarter of FY98. Analytical results for the soil samples collected upgradient of GS03 in February, 1998, were received and evaluated. These soil data did not reveal any localized source responsible for the elevated 30-day average activities.

Two new gaging stations were installed during the third quarter of FY98. These new RFCA source location monitoring stations, described in Table 2 below, have all been incorporated into the existing radio-telemetry system and are programmed to collect continuous, flow-paced, composite samples.

Table 2. New RFCA Source Location Monitoring Stations - Third Quarter FY98

Gaging Station ID	Location Description	Installation Date
GS41	Unnamed tributary to Walnut Creek located west of the flume pond directly upstream of POC GS03	6/10/98
GS42	Unnamed tributary to the South Interceptor Ditch (SID), directly upstream from Pond C-2	6/23/98

On April 28, 1998, EPA issued to DOE an Administrative Complaint and Notice of Opportunity for Hearing associated with the exceedance of the RFCA surface water standards for americium and plutonium that occurred during June and July, 1997. EPA noted that an aggressive and prompt response was taken to investigate the exceedance and that these studies are ongoing.

During the third quarter of FY98, revisions of the surface water section of the IMP and Background Documents were completed. The RMRS Surface Water Working Group delivered the final draft documents to Kaiser-Hill for integration with other sections in preparation for distribution at the May 21, 1998, final draft review meeting.

4.4 Ground Water Monitoring

The 1997 Fourth Quarter RFCA Ground Water Monitoring Report included analyses on all but a few samples that were not received in time for evaluation. Public presentation of the Fourth Quarter data was done at the State Information Exchange meeting on May 26, 1998. Groundwater level measurements of 322 wells well completed for the second quarter of 1998. Groundwater Working Group meetings were ongoing in order to update to the groundwater section of the final draft FY98-99 IMP by May 21, 1998.

4.5 Rocky Flats Water Working Group

During June, 1998, the Rocky Flats Water Working Group was initiated as an expansion and replacement for the Surface Water Issues Meeting. The working group is facilitated and meets every other Tuesday at 1:00 p.m. The group is currently developing its scope, issues, and deliverables. During the fourth quarter of FY98, this group will continue to meet and begin discussing water issues identified by the group.

5.0 Status of RFCA Milestones and Target Activities (M&TAs)

The FY98 and FY99 M&TAs were established by EPA and CDPHE during the first quarter of FY98. A description and status of the FY98 M&TAs, including the third quarters accomplishments, are listed below. Attachment 1 is a table summarizing the status of each project.

5.1 Either a) construct new facility for storage of TRU/TRM Waste by 9/30/98 or b) by 9/30/98 demonstrate adequate storage available for TRU/TRM [FY98 Milestone M1]

In February, 1998, a report titled "Transuranic and Transuranic Mixed (TRU/TRM) Waste Inventory Management Strategy" was drafted to evaluate the need for additional storage based on the facts and assumptions at that time. The conclusion of the report indicates that storage capacity will be adequate for FY98, but a capacity deficit could occur by mid-FY99 if generation increases and/or there is a delay in shipments to the Waste Isolation Pilot Plant (WIPP). Contingency storage locations are being identified and actions are being taken to reconfigure these areas for TRU/TRM storage to deal with this possibility. During the fourth quarter of FY98, the February, 1998, report will be updated and forwarded to the agencies to satisfy completion of this milestone.

5.2 Complete construction of a new TRU/TRM repackaging facility by 9/30/98 [FY98 Milestone M2]

During the third quarter of FY98, the repack module design was completed and construction activities were initiated including demolition of Building 440 (complete), glovebox fabrication, and containment cell installation. During the fourth quarter of FY98, construction activities are projected to be completed, and notice of beneficial occupancy is anticipated to be received, which will complete this FY98 milestone.

5.3 Complete removal of 40 gloveboxes from Building 779 by 9/30/98
[FY98 Milestone M3]

Strip out of contaminated gloveboxes was initiated in early April, 1998, following Kaiser-Hill approval (and required DOE notification) of the corrective actions taken on the findings from the March, 1998 Management Review of readiness to remove contaminated gloveboxes. As of June 30, 1998, 32 of the 40 gloveboxes have been removed, the project is on schedule to complete the milestone by September 30, 1998.

5.4 Either a) ship cumulative amount of 48% of 10/1/96 pondcrete/saltcrete inventory off-site and evacuate all wastes from Tents 2, 8, and 12 by 9/30/98 or b) make the decision to construct additional onsite storage for pondcrete/saltcrete by 12/31/97
[FY98 Milestone M4]

This milestone is on schedule, as of April 30, 1998, the shipping component of 4050 m³ has been exceeded with 4126 m³ of saltcrete/pondcrete having been shipped. Additional shipments may resume in August. Tents 2 and 12 are empty, Tent 8 is scheduled to be empty by September 30, 1998.

5.5 Ship 375 drums of TRU/TRM to WIPP by 9/30/98, assuming a May 1, 1998 opening
[FY98 Milestone M5]

WIPP was scheduled to open in May, 1998. This did not occur, however, EPA issued their final certification rule on May 18, 1998. The result of this final certification rule allowed WIPP to open on June 17, 1998. Due to pending legal action, DOE has made the decision to defer shipment to WIPP until at least August 15, 1998, to accommodate the outcome of a scheduled hearing on that date. Additionally, the New Mexico Environmental Department (NMED) issued a draft Resource Conservation and Recovery Act (RCRA) permit on May 15, 1998, and permit issuance is not expected to occur for 12 months or more. As a result, the TRM waste that RFETS pre-certified in FY97 is not eligible for transport this year. As a final step to RFETS ability to ship, EPA has recently completed a certification audit (June 22 through June 26, 1998). The results of this audit will be made available in early July. If all proceeds as planned, RFETS could make the first shipment to WIPP around the end of August, 1998.

Scheduled for the next quarter are continued characterization of additional waste volumes, hosting a DOE-Carlsbad Area Office audit of the procedures for processing Salt Residues and repackaging of LECO crucibles, and initiating TRU shipments to WIPP.

5.6 Meet or exceed the previous years off-site shipment of Low Level (LL) waste (FY97 shipped amount = 1287 m³) [FY98 Milestone M6]

This milestone is complete, as of June 18, 1998, 1401 m³ of LL waste have been shipped.

5.7 Complete Trench T-1 accelerated cleanup by 9/30/98
[FY98 Milestone M7]

As planned, activities conducted during the third quarter of FY98 included (1) completion of all project control documents, (2) completion of the installation of the weather protection shelter, (3) completion of project readiness assessments, (4) completion of specialized training for project workers, (5) project start-up drills, and (6) initiation of excavation, stabilization, and staging of the depleted uranium and associated waste streams

Excavation of Trench T-1 began on June 10, 1998. As of June 30, 1998, 42 drums have been excavated. Eight B-12 containers were filled with non-intact drums and associated depleted uranium mixed with soil, and 23 B-88 containers were filled with soils for disposal as LL or low level mixed waste depending on concentrations of volatile organic compounds (VOCs). Laboratory results confirming concentrations of VOCs have not been received as of June 30, 1998. Approximately 211 cubic yards of soil were excavated from the trench as of June 30, 1998. Of the soils excavated, approximately 116 cubic yards of soil were excavated with levels less than 5000 counts per minute (cpm), approximately 16 cubic yards of soil with levels between 5000 and 10,000 cpm, and approximately 40 cubic yards of soil at levels greater than 10,000 cpm. Approximately 47 cubic yards of the excavated soil had initial screening levels greater than 25 parts per million of VOCs.

The scheduled date for completion of the milestone for accelerated cleanup of Trench T-1 is September 30, 1998. Cleanup includes excavation, off-site treatment and stabilization of the depleted uranium, gross segregation of other associated waste streams, and the off-site disposal of the stabilized depleted uranium.

5.8 Complete work described in PAM for Building 123 and 123S by 9/1/98
[FY98 Milestone M8]

The Building (B)123 Decommissioning Project completed demolition of the facility on May 18, 1998, and removed all demolition debris on May 19, 1998. Accomplishments for the third quarter of FY98 include (1) completion of demolition work activities, (2) submission of the B123 Hydrogeologic Characterization Sampling And Analysis Plan (SAP) to CDPHE in mid-June, 1998, (3) initiation of the soil sampling activities for Individual Hazardous Substance Sites (IHSS) characterization.

The closing and foaming of concealed pipes and conduits has been completed. The demolition contractor has demobilized. The associated under-building contamination and IHSS 148 and 121 will either be sufficiently evaluated for the Environmental Restoration (ER) Ranking or a justification for a No Further Action Determination will be prepared by September 1, 1998.

5.9 Develop, finalize, and begin implementation of a site-wide natural resource management policy by 9/30/98 [FY98 Milestone M9]

The RFFO has developed a draft Natural Resource Management Policy (NRMP). The NRMP was subject to a public review period from April 30 through June 22, 1998. The final policy is scheduled for completion on September 25, 1998.

5.10 Install and operate SPS in B707 by 9/30/98
[FY98 Target Activity T3]

Continued delays in delivery of the SPS from British Nuclear Fuels Limited, and various technical issues, have resulted in a major change in direction of this project to install only the packaging system, along with a manual stabilization capability in B371. The previous plan was to install the entire system in B707. The change removes delivery of the system from the critical path, now design and procurement of the new manual system will be the critical path. Hot operations are expected to begin in the second quarter of FY00.

Schedules have been submitted to DOE to serve as the basis for establishing a new target date, replacing the September 30, 1998 date for installing and operating the SPS in B707. Pursuant to RFCA Part 11, paragraph 163 and 164, DOE has notified EPA and CDPHE that this target activity requires modification.

5.11 Thermally stabilize 90% of the plutonium oxide generated during the year by 9/30/98
[FY98 Target Activity T5]

Stabilization of 90 percent of the plutonium oxide generated during the year is on schedule.

5.12 Ship 35 SNM shipments off-site by 9/30/98
[FY Target Activity T7]

The shipment of Special Nuclear Material (SNM) is currently on schedule for completion of 35 shipments by September 30, 1998. Issues that could affect our ability to achieve this include (1) funding for receiver sites to receive RFETS shipments, and (2) priority at receiver sites versus other programs. Efforts are continuing with DOE Headquarters to identify funding sources for these activities.

5.13 Close three plutonium ES&H vulnerabilities by 9/30/98
[FY98 Target Activity T9]

One of three vulnerabilities has been closed, the closure of additional two plutonium vulnerabilities is on schedule.

6.0 Site Closure Project

The site is continuing efforts to close Operable Units (OUs) that are not currently associated with a milestone. These projects, including the third quarter's accomplishments, are listed below.

6.1 Environmental Restoration

The OU consolidation under RFCA established the Buffer Zone (BZ) and Industrial Area (IA) OUs, and left OUs 1, 3, and 7 intact. Operable Units 5 and 6 remain in place with some minor modifications. The following actions were completed for each OU during the third quarter of FY98:

6.1.1 OU 1

Pursuant to the OU1 Corrective Action Decision/Record of Decision (CAD/ROD), a remedial action for IHSS 119 1 was initiated in April, 1997 using closure funds. As required by the CAD/ROD, an investigation was completed for potential downgradient sources. Another investigation was completed to acquire information for determining worker health and safety requirements. Based on the results, it was concluded by the lead regulatory agency and DOE to proceed with an amendment to the CAD/ROD calling for long term monitoring with No Further Remedial Action. Alternatives to support this action are being evaluated, and the Amendment is expected to be completed in FY99.

6.1.2 OU 5

In light of the fact that four areas within OU5 contain radionuclides in subsurface soils in excess of the RFCA Soil Action Level, DOE submitted a written proposal to the regulators to consolidate the OU5 IHSSs into the Buffer Zone OU and address them according to the ER Ranking. In addition, DOE requested written approval from the EPA on the RCRA Facility Investigation/Remedial Investigation (RFI/RI) Report. A response from EPA has not been received.

6.1.3 OU 6

DOE staff has reviewed background information for OU6 in preparation for finalizing the RFI/RI Report and preparing the Proposed Plan. DOE expects to ask for final RFI/RI Report approval and to draft the OU6 proposed plan during FY99.

6.1.4 OU 7

The passive seep collection system continues to operate with no changes since last quarter. A sampling program was conducted in the fourth quarter of FY97 and first quarter of FY98 to demonstrate a monitoring history. The data collected was evaluated in the second quarter FY98. Effectiveness of the existing treatment systems was determined to be minimal. A recommendation to stop treatment by carbon absorption and to install a simple cascade system for air stripping was made in the third quarter FY98. Pending approval, the change will be implemented in fourth quarter FY98.

The OU7 landfill will be addressed when it moves up in priority on the ER Ranking list.

6.1.5 Buffer Zone OU

6.1.5.1. Trench T-1 (IHSS 108, BZ OU)

The completion of the Trench T-1 accelerated cleanup is RFCA milestone M7. For a status on the milestone, see Section 5.7.

6.1.5.2 903 Pad and Lip Area (IHSSs 112/155, BZ OU)

A SAP for characterization of the 903 Pad, Lip Area and Americium Zone was submitted to EPA and CDPHE during the first quarter of FY98. The purpose of this characterization program is to further refine the volume estimates of radiologically-contaminated surface and subsurface soils and VOC contaminated soils for selection of appropriate remedial designs. Approval of the subsurface VOC and radiological investigation was received in January, 1998 and subsurface sampling began in early February, 1998. Subsurface sampling continued into the third quarter of FY98 with 38 of the 51 boreholes being completed. Sampling time was prolonged due to extensive precautionary measures taken to address health and safety concerns and significant delays were encountered due to inclement weather. Completion of the subsurface sampling has been delayed until fourth quarter FY98 or first quarter FY99. The radiologically contaminated surface soil program is behind schedule, but is expected to be approved by the regulatory agencies and restart in the fourth quarter of FY98.

6.1.5.3 Mound Plume

The site continues to work on a collection/treatment system for the Mound Site Plume. Funding continues in FY98 from DOE Headquarters (EM-50 Office of Technology and Development). During the second quarter of FY98, the subcontractor to install the system was procured. Installation of the system began in the third quarter of FY98 ahead of the proposed RFCA milestone schedule of FY99. Work is expected to be completed early in the fourth quarter of FY98.

6.1.5.4 East Trenches and 903 Pad/Ryan's Pit Plumes

A subcontractor was procured to characterize, select a remedial action, and develop a conceptual design for these VOC-contaminated plumes in December, 1997. A SAP was developed and submitted to the regulatory agencies in February, 1998, and characterization began in the middle of March, 1998. Field sampling was completed in the third quarter of FY98. Sample analyses, validation, and data evaluation will be completed in the fourth quarter of FY98, followed by preliminary development of the conceptual design.

6.1.5.5 Solar Ponds Plume

During the first and second quarters of FY98, efforts were focused on further evaluation of the nature and extent of the plume and of the phytoremediation alternative. Sampling of existing vegetation in the Solar Ponds Plume was conducted in the fall of 1997 to evaluate the uptake of uranium in native plants. Sampling of the groundwater in the vicinity of the plume was conducted in December, 1997 and January, 1998 to evaluate the nature and extent of the plume. In addition, sampling of soils to determine agronomic conditions for phytoremediation was conducted in January, 1998. A preliminary conceptual model was also developed for the plume area during the second quarter of FY98. Preliminary evaluations of phytoremediation and treatment at the wastewater facility were initiated.

During the third quarter of FY98 limited sampling of the contaminated groundwater continued to evaluate temporal differences. In addition, uranium samples were submitted for inductively coupled plasma/mass spectrometry analysis to better understand background contamination levels near the plume. An evaluation

of all of the data collected will be conducted in fourth quarter FY98. Further evaluation of alternatives will be performed during fourth quarter FY98 based on the new information regarding the instability of the Modular Storage Tanks (MSTs)

6.1.5.6 MST Repairs and Corrective Actions

The MSTs are located in the Buffer Zone due north of B774. The MSTs are used to store water from the Interceptor Trench System (ITS) which is collected in the ITS sump at Pumphouse 308A and pumped to the MSTs. The water is then pumped back through Pumphouse 308A to B374 and treated through the evaporator system in B374.

On April 8, 1998, RMRS initiated the development of a Corrective Action/Contingency Plan to manage a potential slope failure adjacent to the MSTs. On April 13, 1998, the MST effluent transfer pipeline broke as a result of continued movement of the slope near Pumphouse 308B. Upon failure of the pipeline, the pumps automatically shutdown and an alarm was activated in the B374 control room. Immediate actions were taken to isolate the manual valves and curtail the pond transfer between Ponds A-3 and A-4. An estimated 200 gallons of ITS water leaked onto the soil from the secondary containment of Pumphouse 308B.

On April 14, 1998, all proper notifications and event categorizations were made, a plan for completing emergency repairs was made. Work commenced on April 14, 1998 to assemble and position new overland influent and effluent pipelines (approximately 1,200 feet) between pumpstations. On April 15, 1998, all pipe welds, staking and clamping of pipelines, piping configuration changes in the pumpstations, and final tie-point connections were completed. Transfer capability was restored on April 16, 1998.

A geotechnical evaluation of the MSTs was completed on May 19, 1998 that indicates that the MST site is currently stable and that the slough of the southeast hillside is the result of shallow groundwater causing a loss of shear strength at the toe of the hillside.

An alternatives assessment is underway to determine means to stabilize the hillside, evaluate the need to utilize the tank adjacent to the slide, and complete permanent repairs to the influent and effluent lines.

6.1.6 Industrial Area OU (IA OU)

Based on the data collected from the sampling activities conducted in Fall, 1997, it appears that IHSS 118.1 is not impacting surface water and that there are physical and chemical constraints that are limiting contaminant migration. Therefore, a technical memorandum was developed that recommended a monitored natural attenuation approach for IHSS 118.1. The recommendation included installation of new wells and monitoring of new and existing wells to evaluate whether natural attenuation and containment of the source of contamination continue to limit contaminant migration. The technical memorandum was submitted to the regulatory agencies in third quarter of FY98. Installation of monitoring wells is planned for fourth quarter FY98 or first quarter FY99 depending on resource availability.

6.2. Decontamination & Decommissioning Cluster Closure Projects

6.2.1 Decommissioning Program Plan (DPP)

Meetings held with CDPHE and EPA, resulted in progress being made in reaching agreements on document intent and content. The draft DPP was completed in February, 1998 and released for a 60-day public comment period from April 15 through June 15, 1998. The RFCA Parties are dispositioning comments that were received. While all Parties recognize the desirability of the DPP, no final date for completion has yet been established.

6.2.2 Building Radiation Closure Standards

The Working Group (DOE, CDPHE, EPA, and Kaiser-Hill Team), formed to recommend building radiation closure standards, was placed on hold pending evaluation of Nuclear Regulatory Commission (NRC) decommissioning regulations. The NRC has issued separate decommissioning regulations that could impact RFETS. NRC implementation guidance tentatively planned to be available in February, is still in process. A separate evaluation group was established to evaluate the guidance for application as RFETS closure standards. After issue of the NRC Implementation Guidance, and depending upon the applicability evaluations outcome, the Building Radiation Closure Standards Group may terminate or be re-chartered.

6.2.3 Decommissioning Operations Plan (DOP) for the B779 Cluster Closure Project

The DOP for the B779 Cluster Project was approved by CDPHE on February 6, 1998. Approval was granted to initiate and pursue decommissioning activities within the B779 cluster in accordance with plans and commitments as described within the DOP. Accordingly, decommissioning activities are currently underway and on schedule.

6.2.4 Building 886 Cluster Closure Project

Additional funding has been approved to start decommissioning activities. This additional funding will be used to complete activities associated with Metric 1 of the approved Super Stretch Performance Measure. These activities include the stripout of specific equipment in Room 101 of B886 and are scheduled for completion by September 30, 1998. Approval of the draft Interim Measures/Interim Remedial Actions (IM/IRA) is required prior to commencing actual work on certain of these activities.

The draft IM/IRA for the B886 Cluster Closure, completed using the consultative process with CDPHE and EPA, was submitted for public review and comment on May 1, 1998, with comments due on June 15, 1998. Comments are being dispositioned, with approval of the IM/IRA now planned for July, 1998.

6.2.5 B771 Cluster Closure Project

The B771 Closure Project scope includes the deactivation, decontamination, decommissioning, and demolition of B771/774, ancillary support structures, trailers, plant systems and utilities, underground tank systems, and waste sites associated with the B771 complex.

An integrated approach towards closure is being implemented that is expected to accelerate closure of this complex significantly. The B771 closure project is being developed to integrate the final mission or risk-reduction work, SNM holdup removal, deactivation, and decommissioning.

Risk-reduction efforts are currently in process -- all liquid tanks have been drained and all residue drums have been removed from the B771 Annex, tapping and draining of process piping is in progress, residue drums are being shipped out of the rest of the building, removal of unnecessary Benelex shielding and of an unused glovebox line and tank farm is in progress. All packaged residues will be shipped from the building by September 30, 1998. A Reconnaissance Level Characterization Report (RLCR) was submitted to DOE in December, 1997 and a DOP for the B771 closure project was delivered to DOE in February, 1998. These documents have been reviewed for subsequent submission to the regulatory agencies, edits are complete and the final versions will be submitted to CDPH&E by July. Briefings for stakeholders have been conducted to introduce them to the B771 Closure project and stakeholders toured B771 in April, 1998.

6.2.6 Building 776/777 Cluster Closure Project

The B776/777 Cluster Closure Project supports the DOE Strategic Plan by providing dismantlement by FY2006 and closure by FY2007. Planning for this project has been included in the LCB, which governs the interface of multiple projects and programs. The ultimate goal is to completely close down the B776/777 cluster by completing the programmatic work, remove the SNM, LL/LLM/TRU/TRM wastes and residues, deactivate, decontaminate, decommission and demolish the buildings, and remediate the high risk IHSSs. The most efficient way to execute this strategy is to plan the effort as a "closure project." This means there will be overlaps between major activities in order to maintain a seamless transition towards closure.

Current functions include support for SNM activities, e.g., storage, transfer and consolidation, residue sampling and repacks. Another function is to consolidate, reduce, sample, characterize, assay, and store waste and residue.

Near term milestones supported by this plan include

- The completion of the final draft Basis of Interim Operations (BIO) by March 31, 1998,
- Develop a RLCR by August 30, 1998,
- Develop a final draft DOP by September 30, 1998,
- Perform scans on known areas that contain SNM holdup by September 30, 1998,
- Remove SNM holdup from two areas containing holdup by September 30, 1998, and
- Drain to RCRA Stable 1103, 1104, and 1106 Tanks and remove Rasching rings by September 30, 1998

Since FY97, three RCRA storage units have been emptied, five mixed residue pencil tanks closed, 2000 chemicals excessed, two RCRA tanks emptied, all tanks sampled and purged, as necessary, of hydrogen, and SNM removed from one vault.

7.0 List of Approved Decision Documents

No decision documents were approved during the third quarter of FY98.

Status of RFCA Milestones, Target Activities and Site Closure Projects

Driver		Commitment		Official	At Risk?	Status/Comments		Actual Compl.
				Due Date	(Y/N)			
R/MILE STONE	FY98-M1 Either A) construct new facility for storage of TRU/TRM by 9/30/98, or B) by 9/30/98 demonstrate adequate storage available for TRU/TRM			9/30/98	N	On Schedule		
R/MILE STONE	FY98-M2 Complete construction of a new TRU/TRM repackaging facility by 9/30/98			9/30/98	N	On Schedule, Construction initiated week of 6/22/98		
R/MILE STONE	FY98-M3 Complete removal of 40 gloveboxes from Building 779 by 9/30/98			9/30/98	N	On Schedule, as of 6/30/98, 32 of the 40 gloveboxes have been removed		
R/MILE STONE	FY98-M4 Either A) ship cumulative 48% of 10/1/96 pondcrete/saltcrete inventory offsite & evacuate all wastes from Tents 2, 8, 12 by 9/30/98 and OR B) make the decision to construct additional onsite storage for pondcrete/saltcrete by 9/30/98			9/30/98	N	On Schedule, as of 4/30/98, 4126.2 m ³ of saltcrete/pondcrete have been shipped. Shipments may resume in August. Tents 2 and 12 are empty; Tent 8 is scheduled to be empty by 9/30/98		
R/MILE STONE	FY98-M5 (98-4) Ship 375 drums of TRU/TRM to WIPP by 9/30/98 assuming a June 15, 1998 opening			9/30/98	Y	WIPP opening has been delayed; Current anticipated opening of WIPP after July 10, first RFETS shipment expected in July. EPA has completed RFETS Certification Audit		
R/MILE STONE	FY98-M6 Meet or exceed the previous year's offsite shipment of LLW			9/30/98	N	Complete, 1,401 m ³ shipped to NTS as of 6/18/98		6/5/98
R/MILE STONE	FY98-M7 Complete Trench T-1 accelerated cleanup by 9/30/98			9/30/98	N	Unexpected VOC contamination reveals may impact DU and waste shipments to a planned treatment facility. Alternatives are being evaluated		
R/MILE STONE	FY98-M8 Complete work described in PAM for Building 123 and 123S by 9/1/98			9/1/98	N	On Schedule; Demolition Completed 5/20/98; IHSSs 148 and 121 are under evaluation		
R/MILE STONE	FY98-M9 Develop, finalize, and begin implementation a site-wide natural resources management plan by 9/30/98			9/30/98	N	On Schedule		
R/TARGET	FY98-T3 Install and operate SPS in B707			9/30/98	Y	Target will not be achieved as written, modification letter sent to regulators on 6/18/98		
R/TARGET	FY98-T5 Thermally stabilize 90% of the plutonium oxide generated during the year			9/30/98	N	On schedule		
R/TARGET	FY98-T7 Ship 35 SNM shipments offsite by 9/30/98 (External uncertainties recognized)			9/30/98	N	On schedule		
R/TARGET	FY98-T9 Close three plutonium ES&H vulnerabilities by 9/30/98			9/30/98	N	On schedule		
CLOSURE PROJECT	OU1					Amendment to CAD/ROD specifying long-term monitoring W/NFRA expected in FY99		
CLOSURE PROJECT	OU5					Awaiting final RFI/RI report approval		
CLOSURE PROJECT	903 Pad and Lip Area					Approval of subsurface VOC and radiological investigation received in 7/98; subsurface sampling initiated in 2/98. Subsurface sampling continued in 3rd qtr FY98		
CLOSURE PROJECT	Mound Plume					Installation of Collection/treatment system initiated in 3rd qtr FY98		
CLOSURE PROJECT	East Trenches and 903 Pad/Ryan's Pit Plumes					SAP was developed and submitted to the regulatory agencies in 2/98 and characterization began in mid-March		
CLOSURE PROJECT	Solar Ponds Plume					Limited groundwater sampling continued to evaluate temporal differences		
CLOSURE PROJECT	IHSS 118.1					Technical memorandum submitted to agencies in 3rd qtr FY98		
CLOSURE PROJECT	Building 779 Cluster Closure Project					On Schedule, DOP approved 2/6/98		
CLOSURE PROJECT	Building 886 Cluster Closure Project					Public comment period 5/1/98 - 6/15/98, comments being dispositioned		
CLOSURE PROJECT	Building 771 Cluster Closure Project					A draft DOP was submitted to DOE during the 2nd qtr FY98		